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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,602	11/07/2001	John Gardner Fischer	DP-305705	3764

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EXAMINER

RIVELL, JOHN A

ART UNIT PAPER NUMBER

3753

DATE MAILED: 07/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/035,602	FISCHER ET AL.	
	Examiner	Art Unit	
	John Rivell	3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/15/04 (RCE).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 12, 13 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12, 13 and 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 25, 2004 has been entered.

Claims 10, 11, 14, 15, 16 and 17 have been canceled. Thus claims 1-9, 12, 13 and 18-20 are pending.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gimby in view of Wynn, further in view of Smith (4,813,452 cited herein).

The recitation "for a fuel pump" and all references to "fuel" are deemed statements of intended use bearing no patentable weight. Further the recitation "adapted to be..." is considered to be language that suggests or makes optional but

does not require steps to be performed or does not limit a claim to a particular structure and so does not limit the scope of a claim or claim limitation.

The patent to Gimby discloses "a check valve... comprising a valve housing (V) ... a valve seat (E) formed on an interior surface of said valve housing (V), said valve seat (E) having a generally frustaconical cross-sectional shape; a valve member (shown generally at valve head 14 and stem 12) disposed in said valve housing (V) and having a closed position (shown) to engage said valve seat (E) to prevent (fluid) from flowing... and an open position to allow (fluid) to flow..., said valve member having a hub (the top surface of valve head 14) with a... shape and an annular groove (18) extending radially into said hub and a seal (20) disposed in said groove for contacting said valve seat (E) when said valve member is in said closed position; and said valve member having at least one outlet port (28 or 30) a predetermined dwell distance (read as the distance from the bottom surface of seal 20 to the upper surface of either opening 28 or 30) from said valve seat (E) when said valve member is in said closed position and allowing fluid flow past said valve seat (E) when said valve member is in said open position" as recited in claim 1.

Thus Gimby discloses all the claimed features with the exception of having a "housing... disposed in an outlet member" and a "generally hemi-spherical shape" on the outlet side of the "hub" or valve head.

Firstly, the patent to Wynn discloses that it is known in the art to employ a separate valve housing 10 disposed in a separate fluid conducting conduit 40, 41 for the purpose of permitting the valve head and seat to be removed as a unit from the conduit for cleaning and/or replacement.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ, in the device of Gimby, a separate housing,

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mountable into a separate conduit, for the purpose of permitting the valve head and seat to be removed as a unit for cleaning and/or replacement as recognized by Wynn.

Second, the patent to Smith discloses that it is known on the art to employ on a valve device biased closed and whose stem 32 extends through the valve seat 24 a valve head whose downstream surface is shaped to a streamline tip 38 for the purpose of assuring smooth fluid flow about the valve as the fluid traverses the valve surfaces thus reducing turbulence and reducing the potential pressure drop across the valve versus other non hemi-spherical valve head shapes such as the flat shape shown in Gimby.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ, in the device of Gimby, a smoothly shaped downstream surface on the valve head for the purpose of assuring smooth fluid flow about the valve as the fluid traverses the valve surfaces thus reducing turbulence and reducing the potential pressure drop across the valve as recognized by Smith.

Regarding claim 2, in Gimby, "said valve member has a stem (12) extending axially from said hub (14)" as recited

Regarding claim 3, in Wynn, "said valve housing (10) has a passageway (to the left upstream of seat 14, through seat 14 and to the right of seat 14) extending axially therethrough to receive said stem (valve stem 30 of Wynn)" as recited.

Regarding claim 4, the patent to Wynn discloses, in figure 1a, a downstream "flow tube" extending immediately downstream of valve seat 14 the end of the housing 10 which encompasses the valve head 28 when in the fully open position for the purpose of restricting the fluid flow to an annular path once past the valve head resulting in a uniform fluid downstream of the valve head.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ, in the device of Gimby, a "flow tube" extending downstream of the valve seat E to an end of the housing thus encompassing the entire valve head when the valve is in the fully open position for the purpose of restricting the fluid flow to an annular path once past the valve head resulting in a uniform fluid downstream of the valve head as recognized by Wynn.

Regarding claim 5, in Wynn, "said valve housing has an enlarged opening (upstream of slot 20 encompassing valve spring 36) at one end of said passageway" as recited.

Regarding claim 6, in Wynn, "said valve member has a flange (31, 32) at one end of said stem (30) opposite said hub (28) and disposed in said enlarged diameter portion" as recited.

Regarding claim 7, in Gimby, "said valve member has a flow port (26) extending axially therein" as recited.

Regarding claim 8, in Gimby, "said at least one outlet port (28 or 30) extends radially in said valve member (12) and communicates with said flow port (26)" as recited.

Regarding claim 12, in Gimby "a spring (24 is) disposed about said valve member (12) to urge said seal (18) and said valve member toward said valve seat (E)" as recited.

Claims 9, 13 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gimby in view of Wynn and Smith as applied to claims 1-8 and 12 above, further in view of Clifton.

The recitation "for a fuel pump" and all references to "fuel" are deemed statements of intended use bearing no patentable weight. Further the recitation

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"adapted to be..." is considered to be language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure and so does not limit the scope of a claim or claim limitation.

The patent to Gimby, as modified by Wynn and Smith, disclose all the claimed features with the exception of having "a metered shape" valve port 19.

The patent to Clifton discloses that it is known in the art to employ a metering shaped valve port 11 in a reciprocating piston type valve device for the purpose of metering fluid flow through the valve device dependent on valve position.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Gimby, as modified by Wynn and Smith, a metered shaped valve port for port for the purpose of metering fluid flow through the valve dependent on valve position as recognized by Clifton.

Regarding claim 18, as noted above concerning claims 5 and 6, in Wynn, "said valve housing has an enlarged opening (encompassing spring 36 when assembled) at one end of said passageway and said valve member has a flange (31, 32) at one end and disposed in said enlarged diameter portion" as recited.

Regarding claim 19, in Wynn, "a spring (36 is) disposed about said valve member between said flange and surface of the enlarged diameter portion to urge said valve member toward said valve seat" as recited.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gimby in view of Wynn and Smith as applied to claims 1-8 and 12 above, further in view of Hoover.

The device of Gimby, as modified by Wynn and Smith, discloses all the claimed features with the exception of having utility in a "fuel pump" thus controlling "fuel" flow.


The patent to Hoover discloses that it is known in the art to employ a check valve device 28, located in the outlet conduit 30 of a fuel pump 22 of a vehicle leading to an engine 26 of the vehicle for the purpose of preventing backflow of fuel from the engine to the fuel pump.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ the device of Gimby, as modified by Wynn and Smith, as a check valve device in the outlet conduit of a fuel pump feeding fuel to an engine of a vehicle for the purpose of preventing backflow of fuel from the engine to the fuel pump as recognized by Hoover.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Rivell whose telephone number is (703) 308-2599. The examiner can normally be reached on Mon.-Thur. from 6:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel can be reached on (703) 308-1272. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John Rivell
Primary Examiner
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